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AUTHOR Morris, Jon R.; Guenter, Cornelius
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ABSTRACT

Press coverage of a suburban midwest school district is analyzed as a set of time series of observations including the amount and quality of coverage. Possible shifts in these series because of the emergence of controversial issues are analyzed statistically using the Integrated Moving Average Time Series Model. Evidence of significant shifts in quantity but not quality of reporting was found. Implications for school district relations with the press are discussed. (Author)

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THE PRESS RELATIONS OF A LOCAL SCHOOL DISTRICT: AN ANALYSIS OF THE EMERGENCE OF SCHOOL ISSUES

Jon R. Morris — University of Mn.
Cornelius Guenter — Mounds View Public Schools

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In this paper, we attempted two things: to present and apply a classification scheme useful for accurately describing the press coverage of a suburban school district, and finally the explication of a statistical model appropriate for testing hypotheses about the nature of that coverage.

The classification scheme presented in Section I follows closely those methods typically found in journalism research articles (e.g., see the Journalism Quarterly). Judges, using a protocol, sorted articles into pre-determined categories, and once categorized, such things as article length and measures of its quality were recorded. Another measure often of interest is that of number of articles appearing by category.

Once such measures are obtained, how can one use them profitably in analyzing the press relations of a local district? Two approaches appeared obvious--several types of descriptive summaries can easily be prepared. These can be useful for generating hypotheses for further testing and, of course, such data often help us just get "acquainted" with the process we are studying. In Section I, such summary statistics are shown following the classification schemes.

A further and more intriguing analysis of such data is also possible. Since the data used in this study were blocked into reporting periods of two weeks, it seemed natural to explore these observations as sets of time series. Thus, in Section II, the Integrated Moving Average Time Series Model is fit to some of the Mounds View press coverage data, and the hypothesis of no change in quantity or quality of press coverage due to the emergence of a controversial local issue (a bond election) is tested.

Finally, and very briefly, at the end we discuss some of the implications of our findings.

SECTION I: CLASSIFICATION AND DESCRIPTION OF THE PRESS COVERAGE

Newspaper coverage over a period of approximately one year was classified in various ways and analyzed on a bi-monthly basis.

All coverage about the Mounds View Public Schools and any aspect of the educational programs appearing in the St. Paul Dispatch and Pioneer Press, Minneapolis Star and Tribune, Sun Newspapers, and the New Brighton Bulletin (the official newspaper of the school district) was measured and classified as described below.

I. Quantitative Measures

The space, in column inches, devoted to the school district appearing each day was classified as shown in Figure 1. Some of the categories deserve further explanation. "School Board Members" contains articles dealing specifically with the members. Occasionally, this category contains a human interest story. It is most active as a category around election time. The "Community" contains articles about the community but that also relate to the schools. The "Editorials" should be clear, but "Features" refers to a column that occurs on a regular basis.

II. Qualitative Measures

Legal items (see D of Figure 1) are not included here. All other coverage was analyzed and classified under one of the categories described below. The news items were classified under one of the qualitative categories by a person on the administrative staff at Mounds View. At a later date, two independent readers cross-checked the categorization and the recorded size of the article. A total of four items were questioned under cross-examination and eventually two were reclassified.

In the classification process, the newspapers were viewed as media for disseminating information about the schools and the educational program to the public. Coverage was analyzed not primarily for its promotional value from the standpoint of the school district administration, but rather for its general informational value. Accuracy of the coverage was assessed through the presentation of factual

FIGURE 1: OBSERVED TOTALS FOR TWENTY-FOUR WEEKS

QUANTITATIVE MEASURE

Dates (Two week periods)

	St. Paul Papers		Mpls. Papers		Suburban Sun		N.B. Bulletin	
	No. of items	Col. inches	No. of items	Col. inches	No. of items	Col. inches	No. of items	Col. inches
A. NEWS STORIES								
1. School Board Members	10	201	1	2	24	423	46	1012
2. Community (general)	12	130	0	0	21	194	89	999
3. Schools: Curriculum and Student Affairs	97	1347	49	871	285	3559	505	9272
4. Citizens Committee	7	115	7	115	19	313	21	485
5. Staff Affairs	10	119	3	42	23	316	37	619
6. Negotiations	10	177	0	0	24	409	8	187
7. Finance	14	168	4	41	23	330	29	762
8. Other	1	20	0	0	3	37	2	98
B. TOTAL NEWS STORIES	161	2277	64	1071	422	5581	737	13,344
(As % of Total)	11.6	10.2	4.6	4.8	30.5	25.1	53.3	59.9
PHOTOGRAPHS								
1. Students	30	376	25	387	133	1403	372	4447
2. Citizens	6	57	0	0	15	45	25	290
3. Boerd	1	8	0	0	8	55	5	58
4. Staff	2	18	1	2	15	87	75	283
5. Other	4	56	0	0	5	23	19	172
TOTAL PHOTOGRAPHS	43	515	26	389	176	1693	496	5790
C. LETTERS TO THE EDITOR	2	22	0	0	11	150	36	610
D. LEGAL	0	0	0	0	0	0	24	1797
E. ED. & FEATURES	19	250	1	27	28	433	14	322
OVERALL TOTAL	225	3064	91	1487	637	7857	1307	21,873
(As % of Total)	10.0	8.9	4.0	4.3	28.2	22.9	57.8	63.8

data and the overall effect of each item. No attempt was made to measure the accuracy of alleged quotations. The categories augmented with the examples used by the judges in the classification process follow.

A. Category One: Very Positive--Information presented in such a manner that it might in some cases be considered near the point of promotional writing.

Examples:

1. Sun, July 7, 1971

   Headline: Expert Calls Edgewood Plan Good, Asks Changes

   Lead Paragraph: "'Splendid progress,' has been made, but some improvements are needed, in Edgewood Junior High School's five-year teaching experiment, according to some experts."

   Other Quotes: "'We regard Edgewood as one of the best schools in the (Model Schools) project,'" he wrote.

2. New Brighton Bulletin, July 1, 1971

   Headline: "A" to "Z": Mr. Pollution to Zoology Concerns Young Ecologists."

   Quotes: "These kids spend two hours every weekday morning doing those things that adults fondly think kids do on hot summer days--catching butterflies, examining animal tracks, watching birds---"

B. Category Two: Positive--Factual, descriptive, objective, balanced. Accurate dissemination of information, including election statements of candidates, but not paid advertising.

Examples:

1. St. Paul Dispatch, July 6, 1971

   Headline: Mounds View 'Model' School Draws Accolades

   Lead Paragraph: "Two outside views of a Model Schools program being conducted at Edgewood Junior High School have indicated that favorable progress was made during the first year of the experimental projects."

   Other Quotes: "Some district residents leveled criticism at the program last spring, claiming that the Model Schools concept. . ."

The 35-inch article describes in considerable detail the strengths and weaknesses of the Edgewood program as reported by the two visitors, Trump and McKenna.

2. New Brighton Bulletin, February 20, 1972

Letter to the Editor: By a parent announcing to the citizens of the district that she plans to present "several questions" regarding the Edgewood program to the School Board at the next meeting. Parents are invited to attend.

Here the Bulletin served as a medium to announce a Board Meeting agenda item. Although the item was controversial, such citizen involvement in Board Meetings is considered a necessary part of the district's communications program.

C. Category Three: Negative--Item which viewed in the context of all known existing circumstances could be misleading or detrimental to the on-going communications program in the district.

Examples:

1. Sun, November 3, 1971, Column, "Jane Ulstrom."

Headline: School Board Watchdog

The column describes an interchange between a former School Board member and certain members of the Board. Without providing specific, factual information, the column reports several allegations, which may or may not have been based on facts.

The article classifies certain Board members as being "liberal," which, in the opinion of one member thus classified, was not only incorrect, but professionally and politically harmful to him.

2. St. Paul Dispatch, February 1, 1972, Column, "The North Wind"

Headline: "Grapevine"

Quotes: "As the Mounds View District 621 School Board shoots for a $7

million school bond issue we came across this item in the Official Grapevine, the staff publication in the district."

"It costs the average family about $40,000 to raise a child. . ."

The article further discusses the costs of raising and educating children. While these figures may be interesting reading, under the present circumstances, they might have been misleading, in that they 1) may be highly speculative, as no source was given, 2) serve to magnify, unduly, the high cost of education, to which the upcoming bond election will only add.

D. Category Four: Very Negative--Open criticism of policies and/or procedures of the district.

Examples:

1. New Brighton Bulletin, July 15, 1972.

Headline: M V District vs. The Facts of Life

The story describes a pregnant teacher's legal struggle to continue teaching against district policy. It is quite critical of the Board's stand.

Quotes: "I thought such archaic views had perished with the rise of sex education and Women's Lib, not to mention. . ."

"To quote Matthew Stark, MCLU President: '. . .This unconstitutional act must cease.'"

"As a former pregnant teacher, I agree."

2. Sun, July 21, 1971, Column, "Jane Ulstrom."

Headline: Benedict Arnold in 621?

Lead Paragraph: "It almost happened. I almost was invited to what was almost another of those notorious private Mounds View school board meetings. Almost."

The column goes on to criticize the School Board for holding "closed" meetings.

E. Category Five: Erroneous Data--incorrect information. Intentionally or unintentionally, data is presented incorrectly, hence must be considered misleading to the readers.

Examples:

1. St. Paul Dispatch, November 2, 1971, Column, "The North Wind"

   Headline: Busing Cost for Mounds View

   The column quotes extensively from a student report on busing costs, presented to the School Board at a regular meeting. The cost figures prepared by the student were grossly in error, as the costs for one district for one year were compared with the costs of another district for another year.

2. Sun, November 24, 1971

   Headline: 12 Months School Opposed

   The article charges, "No one but members of the district citizen advisory committee which recommended the plan spoke in favor of it at Irondale High School Meeting. . ."

   The event discussed was a public hearing, at which many citizens gathered to oppose a recommendation of a citizens advisory committee that the school district adopt a 12-months school year plan.

   Near the end of the meeting a number of citizens, not in any way associated with the committee, spoke in favor of the plan.

   Other data in the article spoke about a stand-up vote as though it accurately represented the views of all 1,200 persons in attendance at the meeting. "A stand-up vote Monday showed some 50 adults and two students in favor of the plan out of a crowd that spilled out of the high school gym. The seating capacity of the gym is reportedly 1,200."

   It was not noted, however, that at the time the vote was taken several hundred persons had already left. It would have been extremely difficult to determine, on sight, how many of the standing persons were students.

A SUMMARY OF THE PRESS COVERAGE OF MOUNDS VIEW

Referring to the totals recorded in Figure 1, some interesting information about the quantity of the press coverage of Mounds View becomes apparent.

Total number of items (including photographs)	2,260
Total space (column inches)	34,281
Average space per item (in inches)	15.2

The Twin Cities metropolitan area newspapers included in this study ranked as follows according to the amount of space devoted to coverage of the Mounds View district:

	As % of Total	
	No. of items	Col. Inches
New Brighton Bulletin	57.8	63.8
Suburban Sun	28.2	22.9
St. Paul Dispatch & Pioneer Press	10.0	8.9
Minneapolis Star & Tribune	4.0	4.3
Total	100.0	99.9

All four newspapers ran the greatest number of items and devoted most space to "Schools: Curriculum and Student Affairs." With the exception of the classification "Other," the fewest number of items and the least amount of space was devoted to "Negotiations"--items, 3.0%; col. inches, 3.5%.

Generally, the distribution of coverage was relatively similar under all classifications except that of the "Schools: Curriculum and Student Affairs."

To save space, the totals for the qualitative measures are not reproduced here. However, some interesting facts should be noted: Of all the items and space devoted to coverage of the Mounds View School District, 89.9% of the total number of items and 89.0% of the total amount of space was classified as Category II (Positive)

Of the five categories, Category III (Negative) contained the least amount of coverage--6 items for 97 column inches.

An interesting contrast appears in Category IV (Very Negative) in that the "Schools: Curriculum and Student Affairs" again received the greatest amount of

coverage--items, 65.4%; column inches, 64.5% of the category total.

In summary, the district receives a generous amount of coverage, and it is apparently quite positive and accurate. In the next section, we examine further the characteristics of this coverage under the condition of the emergence of a controversial issue.

SECTION II: TIME SERIES ANALYSIS OF THE PRESS COVERAGE DATA

The Model

The statistical model employed in this analysis of the press coverage of the Mounds View school district was developed by Box and Tiao (1965). Box and Tiao presented an analytic technique for estimating and making inferences about the change in level of a time series. The model they proposed is a special case of the integrated moving average process:

$$Z_t = L + \gamma \sum_{j=1}^{t-1} a_{t-j} + a_t, \quad t=1, \ldots, n_1 \qquad (1)$$

where L is a location parameter describing the general level of the series, γ is a parameter describing the interdependency of the observations in this time series and, a_t is an observation of a random normal variable with mean 0 and variance σ^2.

Equation (1) describes the n_1 observations taken prior to the administrative intervention, e.g., the announcement to the press of the district's decision to hold a bond election. The n_2 observations following the intervention differ from (1) only in that a treatment, δ, is present.

$$Z_t = L + \gamma \sum_{j=1}^{t-1} a_{t-j} + a_t + \delta, \quad t=n_2, \ldots, n_1 + n_2 \qquad (2)$$

The parameter δ is the change in level of the series due to the announcement by the district's administration of a pending bond election.

There are several restrictive assumptions which must be met before the model can be assumed to hold:

1. The intervention is assumed to bring about an immediate and constant effect, δ, upon the process;
2. The process is regarded as being subjected to periodic and random shocks, a_t, with zero mean; and
3. A portion, γ, of each shock is assumed to remain in the system to influence its movement through time.

As Glass (1968) indicated, the assumptions of Equations (1) and (2) are examined by inspecting the graphs of the time series and the correlograms of the data as follows:

1. The process should be free of cycles in its graph over the observations. Any apparent "drifts" from a baseline in a particular direction probably indicate the model is not appropriate.
2. The correlogram of the original observation of the process is free of cycles and displays a random pattern about a baseline.
3. The correlogram of the differences between successive observations in the time series has a lag 1 correlation which is large in absolute value when γ deviates from 1.0 and all higher lag correlations are near zero. The lag 1 correlation of the differences is:

$$\frac{-(1-\gamma)}{1+(1-\gamma)^2}$$

where γ is an unknown parameter in Equation (1).

Investigating the Fit of the Model to the Data

The data are shown as Figures 1 through 3. Figures 1 and 2 are graphs of total news coverage in column inches as observed in two local suburban papers. Figure 3 is a graph of the amount of coverage from both papers that was classified by judges as being negative. Inspection of the data for all three graphs suggests no apparent cycles or upward or downward trends. The first condition noted above seems satisfied.

FIGURE 1: PRESS COVERAGE OF I.S.D. #621 AS TOTAL NEWS STORIES IN COLUMN INCHES AS OBSERVED IN THE N. B. BULLETIN

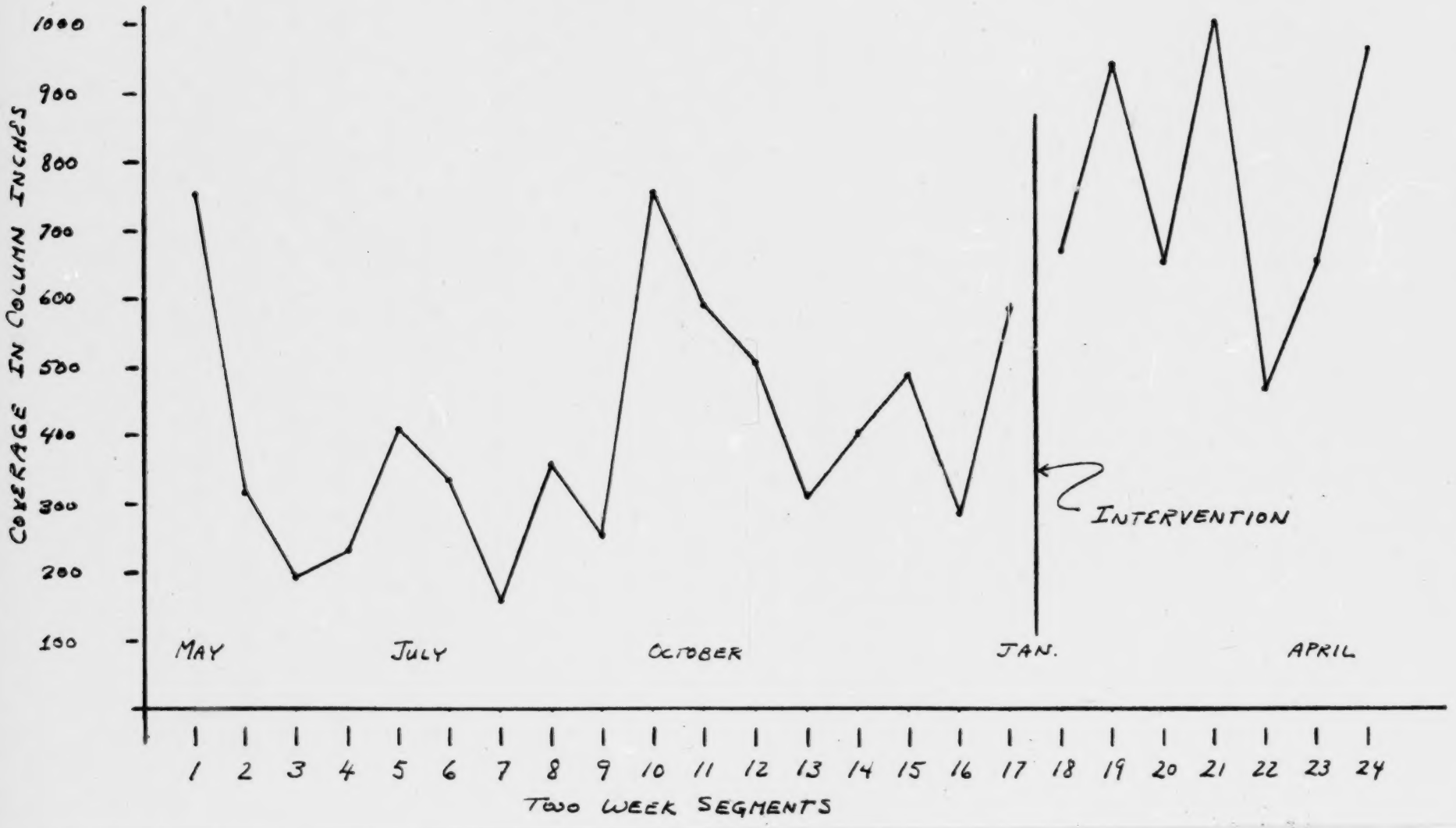


FIGURE 2: PRESS COVERAGE OF I.S.D. #621 AS TOTAL NEWS STORIES IN COLUMN INCHES AS OBSERVED IN THE SUBURBAN SUN

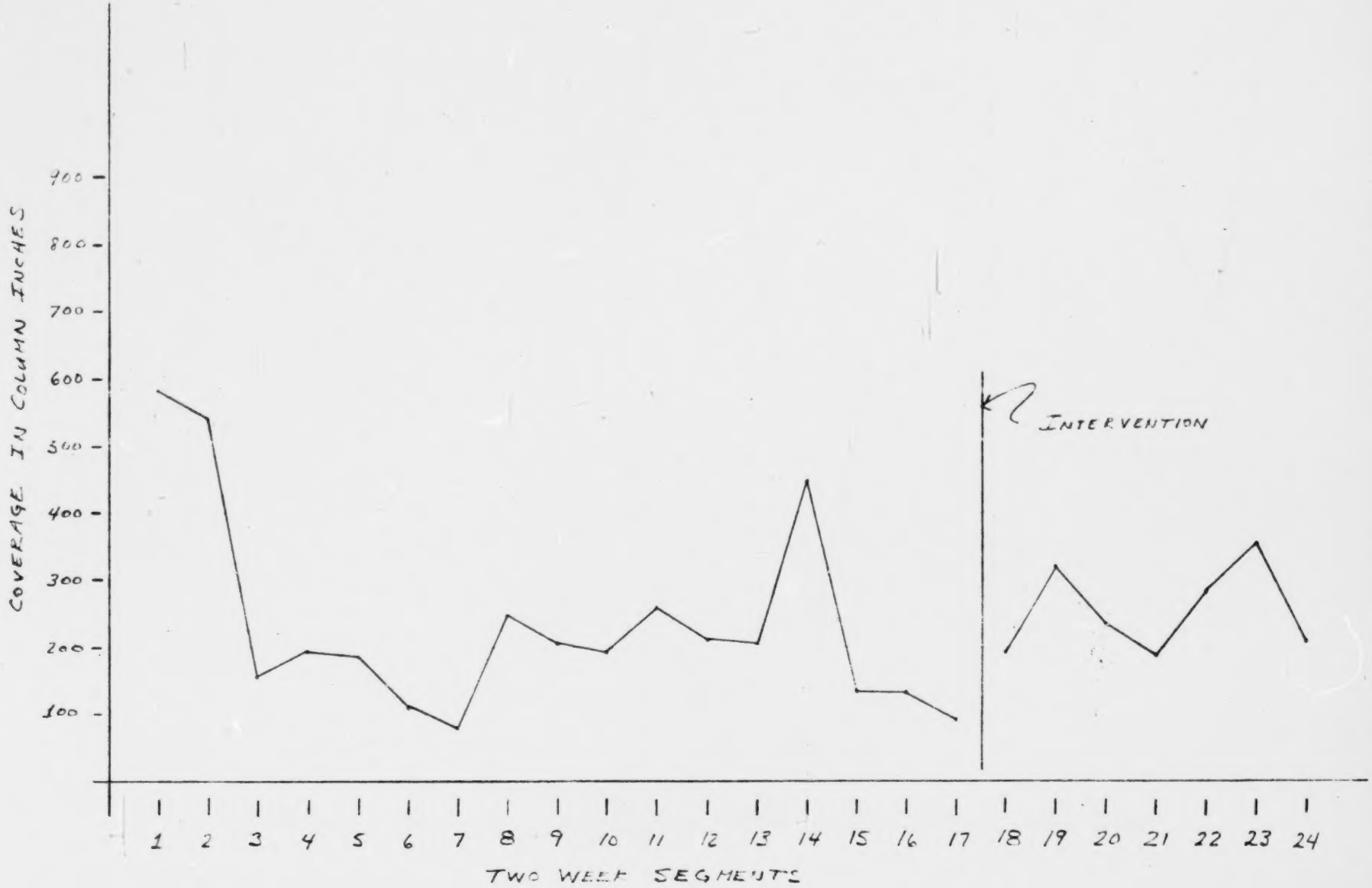
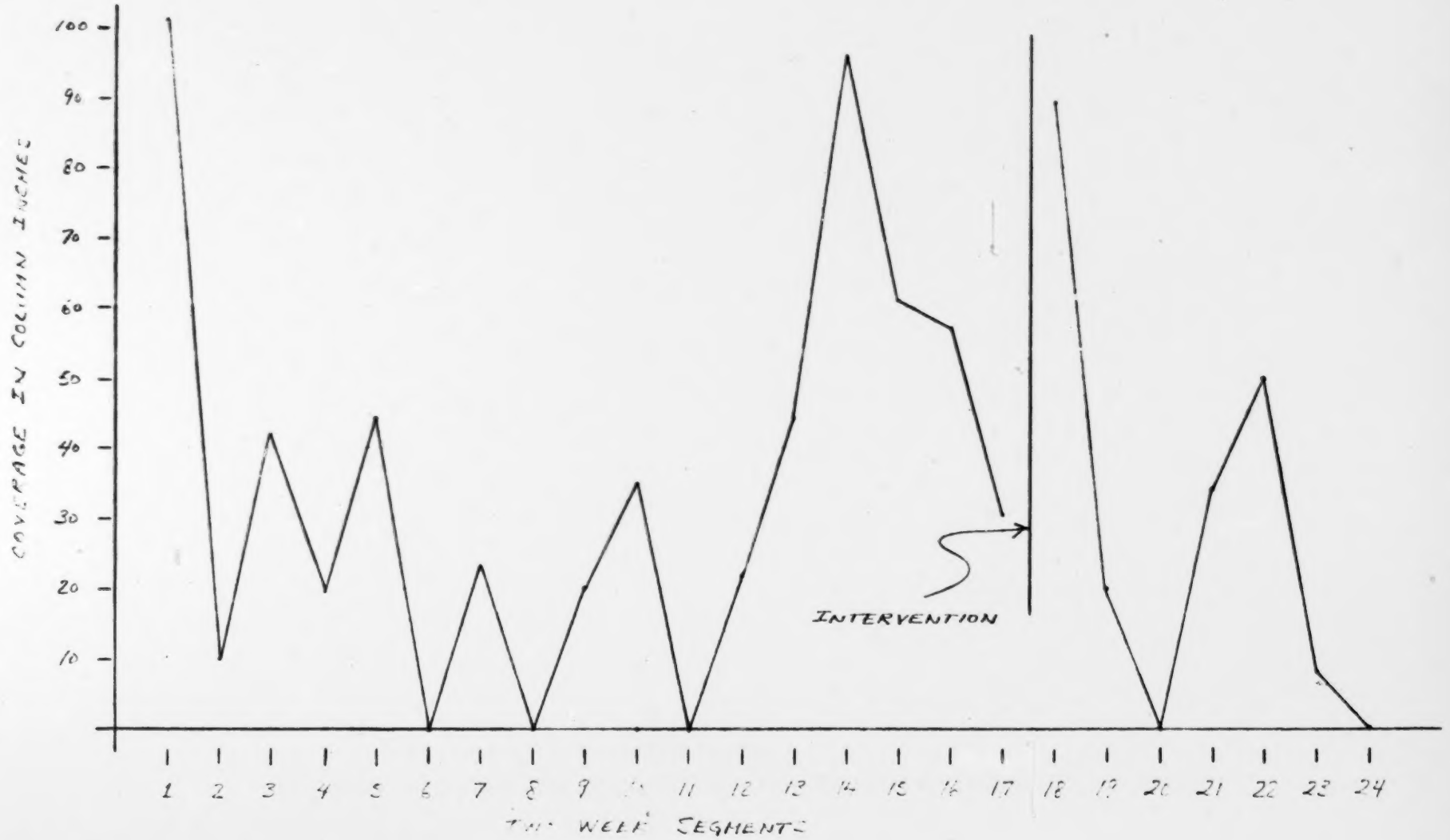


FIGURE 3: QUALITY OF PRESS COVERAGE OF A LOCAL SCHOOL DISTRICT IN COLUMN INCHES COMBINED FOR TWO LOCAL PAPERS



The correlograms[1] of the observations in Figure 1 through 3 were calculated[2] for the pre- and post-treatment series separately (a change in level of the series due to the intervention will alter the autocorrelations observed in the pre-treatment series, so they must be computed separately). These correlograms of the raw data are not reproduced here, but they appear to be random fluctuations about a zero baseline, characteristic of data conforming to Equation (1).

The next step in the investigation of the fit of the model (1) to the data is to calculate the correlogram for the differences between adjacent observations, $Z_t - Z_{t-1}$. Only the seventeen pre-intervention observations for each series are examined here. As was pointed out earlier under condition 3, if the model in (1) holds, the lag 1 autocorrelation of the differences $Z_t - Z_{t-1}$ will equal $-(1 - \gamma) / [1 + (1 - \gamma)^2]$, where γ is an unknown parameter in the model, and the lag 2 and greater correlations of the same data will equal zero. A maximum likelihood estimate of γ can be obtained from the N observations, Z_t.

The most likely value of γ for the three series was shown to be .01. Using this value, the corresponding expected lag 1 correlation using condition 3 is -.50. The first 10 lags for each series are shown in Table 1. Inspection of this table shows appropriate lag 1 values, but some questionable higher order lags.

Since conditions one and two seem well satisfied and condition three seems satisfied except for a few high order coefficients, we proceed with the analysis, assuming the data are adequately described by such a model.

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[1] A correlogram is a set of correlations among lagged differences in the data. The lag 1 correlation is the correlation calculated on pairs of observations formed by pairing each observation, Z_t, with the observation, Z_{t+1}, which follows it by one unit of time and so on for higher lags.

[2] A computer program available from the Laboratory of Education Research, School of Education, University of Colorado was used to perform these and subsequent calculations for the analysis.

TABLE 1

CORRELATIONS OF LAGGED DIFFERENCES

DATA	EXPECTED LAG 1 VALUE	LAG 1	2	3	4	5	6	7	8	9	10
N.B. Bulletin (Figure 1)	-.50	-.42	.06	-.30	-.06	.29	-.32	.29	-.85	.68	.21
Suburban Sun (Figure 2)	-.50	-.31	-.06	.29	-.07	-.42	.35	-.34	-.24	.15	.03
Negative Coverage (Figure 3)	-.50	-.52	.36	-.53	.42	-.09	.01	.08	-.61	.73	-.42

Analysis for Change in Level of the Series

The objective of the statistical analysis is to estimate the size of δ, the effect (increment or decrement) of the announcement of the bond election at the time n_1, on the time series, and to decide whether the true value of δ is positive, negative, or zero. In effect, then, the statistical analysis answers the question whether the observations following the announcement are simply a continuation or whether they have moved the level up or down.

The $n_1 = 17$ observations preceding the announcement and the $n_2 = 7$ post-announcement observations were subjected to the analysis outlined in Box and Tiao (1965) for unknown γ. The analysis is facilitated by the use of a computer program which computes for admissable values of γ (0 to 2) the likelihood that a certain value is the true one--and the "t-statistic"--which tells how likely it is that δ is zero.

Results of the Analysis

The results of the analysis are summarized in Table 2. For each cell, the t value for the most likely value of γ and a tenative statement of the significance of that t value are reported. Each cell represents an analysis of the test for δ in Equation (2) being significantly different from zero. There is evidence for change in level of reporting but none for change in quality.

Conclusions and Implications for Relations with the Press

The Mounds View School District makes an effort through various means and levels of communication to inform the public about and involve them in the educational program of the district.

The media are informed:

1. Through a regular, constant flow of information from the Superintendent's office.
2. Through attendance at Board Meetings.
   a. Agendas are distributed in advance of meetings.
   b. Background information is provided in advance of meetings.

TABLE 2

SUMMARY RESULTS OF THE TIME SERIES ANALYSIS

Observed Series	Observed $\underline{t}$ for change
N. B. Bulletin (Figure 1)	$\underline{t}$ = 2.06 (Change)
Suburban Sun (Figure 2)	$\underline{t}$ = 1.64 (No Change)
Negative Coverage (Figure 3)	$\underline{t}$ = -.408 (No Change)

$$t_{(\alpha = .05,\ d.f. = 22)} = 2.07$$

$$t_{(\alpha = .10,\ d.f. = 22)} = 1.72$$

c. The press is given special consideration at Board Meetings by means of reserved seating at a press table and provision of informational materials relative to the agenda.

3. Whenever possible, through assistance in arranging interviews and other types of news-gathering opportunities.

4. Through specially arranged news conferences for coverage of out-of-the-ordinary events or programs.

As a result of the effort exerted, the district is rewarded by a generous amount of coverage of which the major portion is quite accurate and positive. This must be viewed as a benefit to the district in many ways, including the minimal direct costs involved in the press coverage as against district-published materials. Further evidence was found in the statistical analysis to show that the local press responds immediately to local issues but maintains its objectivity. One can only speculate, but it seems safe to venture that the quality and quantity of the coverage given the district is due largely to the district's press relations policy.

REFERENCES

Box, G. E. P. and G. C. Tiao, "A Change in Level of a Non-Stationary Time Series," Biometrika, V. 52, 1965, pp. 181-192.

Campbell, D.T., "From Description to Experimentation: Interpreting Trends as Quasi-Experiments" in Problems in Measuring Change, C. W. Harris (Ed.), Madison: University of Wisconsin Press, 1963, Ch. 12.

Campbell, D. T. and J. C. Stanley, "Experimental and Quasi-Experimental Designs for Research on Teaching" in N. L. Gage (Ed.), Handbook of Research on Teaching, Chicago: Rand McNally, 1963.

Glass, G. V., "Analysis of Data on the Connecticut Speeding Crackdown as a Time Series Quasi-Experiment," Law and Society Review, V. 3, 1968, pp. 55-76.